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April 29, 2003

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# Acquisition

Acquisition of the Suite  
of Integrated Radio  
Frequency Countermeasures  
(D-2003-083)

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Department of Defense  
Office of the Inspector General

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*Quality*

*Integrity*

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### **Acronyms**

C4I	Command, Control, Communications, Computers, and Intelligence
DFARS	Defense Federal Acquisition Regulation Supplement
ORD	Operational Requirements Document
SIRFC	Suite of Integrated Radio Frequency Countermeasures
USSOCOM	U.S. Special Operations Command



INSPECTOR GENERAL  
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April 29, 2003

MEMORANDUM FOR COMMANDER, U.S. SPECIAL OPERATIONS COMMAND  
AUDITOR GENERAL, DEPARTMENT OF THE ARMY

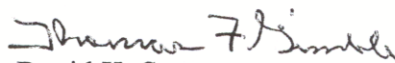
SUBJECT: Report on the Acquisition of the Suite of Integrated Radio Frequency  
Countermeasures (Report No. D-2003-083)

We are providing this report for review and comment. This report discusses the overall management of the Suite of Integrated Radio Frequency Countermeasures Program. We considered management comments from the Program Executive Officer, Intelligence, Electronic Warfare, and Sensors, Department of the Army; and the Acquisition Executive, U.S. Special Operations Command when preparing the final report.

DoD Directive 7650.3 requires that all recommendations be resolved promptly. The comments from the Acquisition Executive, U.S. Special Operations Command did not meet the intent of Recommendations C.1. and C.2. Therefore, we request that the Acquisition Executive reconsider his position on those recommendations and provide additional comments on Recommendations C.1. and C.2. by June 30, 2003.

If possible, please provide management comments in electronic format (Adobe Acrobat file only) to [audam@dodig.osd.mil](mailto:audam@dodig.osd.mil). Copies of the management comments must contain the actual signature of the authorizing official. We cannot accept the / Signed / symbol in place of the actual signature. If you arrange to send classified comments electronically, they must be sent over the SECRET Internet Protocol Router Network (SIPRNET).

We appreciate the courtesies extended to the staff. Questions should be directed to Mr. John E. Meling at (703) 604-9091 (DSN 664-9091) or Ms. Susan J. Lippolis at (703) 604-9081 (DSN 664-9081). See Appendix F for the report distribution. The team members are listed inside the back cover.

  
David K. Steensma  
Deputy Assistant Inspector General  
for Auditing

# Office of the Inspector General of the Department of Defense

Report No. D-2003-083

(Project No. D2002AE-0121)

April 29, 2003

## Acquisition of the Suite of Integrated Radio Frequency Countermeasures

### Executive Summary

**Who Should Read This Report and Why?** Those who are specifically involved in the management, support, and oversight of the Suite of Integrated Radio Frequency Countermeasures (SIRFC) should read this report because it discusses acquisition issues that must be addressed before the SIRFC program progresses further through the acquisition process.

**Background.** Initiated in 1984, the SIRFC is a state-of-the-art, lightweight, fully integrated radio frequency countermeasures and situational awareness system designed to protect rotary-wing and fixed-wing aircraft against fire control radars and semi-active missiles for both air-to-air and surface-to-air weapons systems. At program initiation, the Army and the U.S. Special Operations Command (USSOCOM) planned to procure SIRFC units. Through FY 2003, the Army programmed \$138.1 million in research, development, test, and evaluation funds and \$32.8 million in procurement funds for the SIRFC. However in September 2001, the Army withdrew procurement funding for the SIRFC program for FY 2003 and beyond. Because the Army delayed its SIRFC procurement plans, USSOCOM programmed \$239.7 million in procurement funding for FY 2003 through FY 2007 to procure, integrate, and install 97 SIRFC systems on special operations rotary-wing aircraft. The SIRFC is an Army Acquisition Category III program that is included on the Director, Operational Test and Evaluation oversight list.

**Results.** Overall, the SIRFC program needs improved management controls in the areas of program management, key performance parameters, and test and evaluation before it enters the full-rate production phase of the acquisition process.

- Roles and responsibilities for day-to-day management of the SIRFC program were unresolved because of Army and USSOCOM indecision concerning which organization would manage the program. As a result, neither the Army nor USSOCOM had updated the operational requirements document; the command, control, communications, computers, and intelligence support plan; the test and evaluation master plan; and the program protection plan—key documents that are needed to effectively manage the program. Determining which organization will manage the continued acquisition of the SIRFC system and updating program documentation will help decision makers make needed programmatic decisions (finding A).
- The Army Aviation Center did not include any key performance parameters in the operational requirements document for the SIRFC. As a result, program decision makers do not have criteria needed to make informed decisions concerning continuation of the program at program reviews and user

requirements are at greater risk of not being met. Incorporating key performance parameters in the SIRFC operational requirements document, including a parameter for interoperability, before further decisions are made to procure additional SIRFC systems should reduce program risk (finding B).

- The Program Executive Officer, Intelligence, Electronic Warfare, and Sensors authorized the SIRFC program to enter low-rate initial production even though the Army Test and Evaluation Command concluded that the system, as designed, was not sufficiently mature to be considered operationally effective, suitable, and survivable. As a result, USSOCOM contracted to procure seven SIRFC systems at an estimated cost of \$19.6 million without assurance that they can successfully pass planned operational tests before the full-rate production decision review. Delaying further low-rate initial production decisions for the SIRFC until adequate test results are available would enable decision makers to determine whether the system is affordable and can successfully accomplish its intended mission (finding C).

See the Findings section of this report for the detailed recommendations.

**Management Comments and Audit Response.** We received comments from the Army Acquisition Executive (the Army) and the USSOCOM Acquisition Executive. Although the Army nonconcurred with findings A, B, and C, it concurred with the recommendations to decide which organization will manage the SIRFC system through the full-rate production phase of the acquisition process and to update the operational requirements document; the command, control, communications, computers and intelligence support plan; the test and evaluation master plan; and the program protection plan.

The USSOCOM Acquisition Executive concurred with the recommendations in the report with the exception of the recommendation to delay further low-rate initial production decisions for the SIRFC until test results show that the system is potentially operationally effective, suitable, and survivable as integrated on the MH-47 *Chinook* rotary-wing aircraft. The USSOCOM Acquisition Executive stated that SIRFC system integration does not affect the SIRFC design. He further stated that the program manager postponed the low-rate initial production decision for 4 months until recent test results were reviewed to determine the readiness of SIRFC, as an aircraft subsystem, for low-rate initial production. However, as concluded in the Army Test and Evaluation Command Report of June 2001, the operational effectiveness and suitability of the SIRFC design will not be known until the SIRFC is operationally tested on the MH-47 *Chinook*. Accordingly, we still believe that the USSOCOM Acquisition Executive, to reduce program risks, needs to adhere to the exit criteria established in the Army acquisition decision memorandum, May 30, 2002, requiring successful implementation of corrective actions, meeting established reliability exit criteria, and having formal test evaluation results of the SIRFC as integrated on the MH-47 *Chinook* before approving additional low-rate initial production decisions. Further, the USSOCOM response did not satisfy the intent of the recommendation to measure the extent that aircraft survivability is improved with the system and to assess the affordability of the system because the independent evaluation that the USSOCOM response referenced did not measure them. Accordingly, we request that the Acquisition Executive, U.S. Special Operations Command provide additional comments in response to the final report by June 30, 2003. (See the Findings section of the report for a discussion of the management comments and the Management Comments section of the report for the complete text of the comments.)

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Source: U.S. Army Technology Applications Program Office, Fort Eustis, VA

### **Suite of Integrated Radio Frequency Countermeasures (AN/ALQ-211)**



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## Background

The Suite of Integrated Radio Frequency Countermeasures (SIRFC), an Army acquisition category III program, was initiated in 1984 to meet operational requirements for a modular radio frequency electronic countermeasures system for Army rotary-wing and fixed-wing aircraft and U.S. Army Special Operations Command special operations aircraft. The SIRFC is to provide electronic countermeasures against fire control radars and semi-active missiles for both air-to-air and surface-to-air weapons systems, radio frequency warning, electronic countermeasures protection, and enhanced aircrew situational awareness. Appendix D provides definitions of technical terms used in this report.

In September 2001, the Army withdrew procurement funding for the SIRFC program for FY 2003 and beyond. As a result of the Army's decision to remove procurement funding for the system and the events of September 11, 2001, the U.S. Special Operations Command (USSOCOM)<sup>1</sup> made advanced aircraft survivability equipment its number one requirement to meet worldwide commitments and reinforced its plans to integrate the SIRFC on the MH-47 *Chinook* and the MH-60 *Blackhawk* rotary-wing aircraft. The DoD Comptroller, in Program Decision Memorandum II, December 15, 2001, provided USSOCOM with \$239.7 million in funding to procure, integrate, and install 97 SIRFC systems on special operations aircraft from FY 2003 through FY 2007. The Army obligated \$128.2 million in research, development, test, and evaluation funds and \$32.8 million in procurement funds for SIRFC through FY 2002 and programmed another \$9.9 million for research, development, test, and evaluation in FY 2003.

In March 2002, the Program Executive Officer, Intelligence, Electronic Warfare, and Sensors approved the SIRFC to enter low-rate initial production in support of USSOCOM-funded requirements. In the acquisition decision memorandum, the Program Executive Officer approved a low-rate initial production quantity of up to eight SIRFC systems for aircraft integration, operational testing, and subsequent fielding, and to support establishment of an initial production base. On March 28, 2002, USSOCOM contracted for seven low-rate initial production systems, which are scheduled for delivery beginning in September 2003. The Acquisition Program Baseline, March 2002, showed that the Army planned to hold the full-rate production decision review in the first quarter of FY 2004. In July 2002, the USSOCOM program office revised the date of the planned full-rate production decision review to the first quarter of FY 2005.

In June 2002, the Army removed \$51.4 million from the \$61.3 million in research, development, test, and evaluation funds that were included in the Army Research, Development, Test, and Evaluation Budget Item Justification (R-2A Exhibit), February 2002, for FY 2003 through FY 2007. The Army will use the remaining \$9.9 million in research, development, test, and evaluation funds for

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<sup>1</sup>USSOCOM, established on April 16, 1987, consists of three Service Component commands: the Army Special Operations Command, the Naval Special Warfare Command, and the Air Force Special Operations Command. All special operations forces of the Army, Navy, and Air Force are under USSOCOM. SIRFC program documentation used the terms USSOCOM and SOCOM [Special Operations Command] interchangeably.

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FY 2003 to address technology insertion issues. The draft Army Program Objective Memorandum for FY 2004 through FY 2009 also showed zero funding for the SIRFC program. Because of a congressional mandate,<sup>2</sup> the Office of the Director, Operational Test and Evaluation included the SIRFC on its test and evaluation oversight list.

USSOCOM will also use the SIRFC as the aircraft survivability equipment suite controller and radio frequency countermeasures system for installation on the CV-22 tilt-rotor aircraft.<sup>3</sup> The Principal Deputy for the USSOCOM Acquisition Executive stated that the CV-22 Program Office purchased four SIRFC systems as contractor furnished equipment under a commercial contract between Bell/Boeing and International Telephone and Telegraph. The SIRFC program office anticipates that the CV-22 Program Office will purchase additional SIRFC systems as government furnished equipment through the Army's SIRFC production contract beginning in FY 2004.

## Objectives

The audit objective was to evaluate the overall management of the SIRFC program. Because the program was in the engineering and manufacturing development acquisition phase, we determined whether management was cost-effectively readying the program for the production phase of the acquisition process. We also reviewed the adequacy of the management control program as it related to our audit objective. See Appendix A for a discussion of the scope and methodology, our review of the management control program, and prior coverage. Monitoring of the contractor cost and schedule performance is discussed in Appendix B.

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<sup>2</sup>House of Representatives Report 103-357 (1993) requires the Secretary of Defense to develop a DoD test and evaluation process for electronic warfare systems and to report annually on the progress toward meeting this process.

<sup>3</sup>As part of our review of the acquisition of the SIRFC, we requested program documentation for the CV-22. As of December 2002, the CV-22 Program Office had not provided any documentation for review.

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## A. Program Management

Roles and responsibilities for day-to-day management of the SIRFC program were unresolved because of Army and USSOCOM indecision concerning which organization would manage the program. Neither organization updated the operational requirements document; the command, control, communications, computers, and intelligence support plan; the test and evaluation master plan; and the program protection plan—key documents that are needed to effectively manage the program. As a result, acquisition decision makers do not have the information they need to make informed programmatic decisions.

### Acquisition Responsibilities and Program Documentation Policy

DoD has established written policy governing the assignment of program management responsibilities and the preparation and update of the operational requirements document; command, control, communications, computers, and intelligence support plan; the test and evaluation master plan; and the program protection plan as follows.

**Program Management Responsibilities.** Memorandum of the Secretary of Defense on, “The Defense Acquisition System,” October 30, 2002, requires that a program manager be designated for each acquisition program. USSOCOM Directive 70-1, “Acquisition Management Procedures,” November 24, 1999, requires that a memorandum of agreement between the Military Departments and USSOCOM be established to delineate responsibilities of USSOCOM and the managing Service for each Service-managed acquisition program.

**Operational Requirements Document.** Chairman of the Joint Chiefs of Staff Instruction 3170.01B requires that the operational requirements document (ORD) be updated when necessary and prior to each acquisition milestone to incorporate results of the activities during each acquisition phase.

**Command, Control, Communications, Computers, and Intelligence (C4I) Support Plans.** DoD Interim Defense Acquisition guidebook, October 30, 2002, requires that DoD Components develop C4I support plans early in the acquisition process for all acquisition programs when they connect in any way to the communications and information infrastructure. DoD Instruction 4630.8, “Procedures for Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS),” May 2, 2002, also requires that DoD Components identify program interoperability requirements in the C4I support plan.

**Test and Evaluation Master Plan.** The Interim Defense Acquisition Guidebook, October 30, 2002, states that the program manager should update the test and evaluation master plan at milestones and decision reviews, when the

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ORD or C4I support plan is significantly modified, or when the program has changed significantly. USSOCOM Directive 70-1 requires that each program manager document a test plan in the single acquisition master plan for development test and operational test activities. Additionally, the Directive states that the program manager should update the single acquisition master plan as the program matures and when significant events affecting the program occur.

**Program Protection Plan.** DoD Directive 5200.39, "Security, Intelligence, and Counterintelligence Support to Acquisition Program Protection," September 10, 1997, establishes policy and assigns responsibilities to protect and prevent unauthorized or inadvertent disclosure, or loss of critical program information. DoD Manual 5200.1-M, "Acquisition Systems Protection Program," March 16, 1994, requires program managers to update the program protection plan at each milestone review and upon the occurrence of a change in status of the critical program information.

## **Army and USSOCOM Program Management Responsibilities**

Roles and responsibilities for day-to-day management of the SIRFC program were unresolved because of Army and USSOCOM indecision concerning which organization would manage the SIRFC program after the Army removed funding for the program in September 2001.

Program office personnel stated that the decision concerning program management responsibilities would be resolved in September 2002. As of December 2002, the Army Acquisition Executive and the USSOCOM Acquisition Executive still had not decided which organization will manage the SIRFC program through the full-rate production phase of the acquisition process. For further details concerning the reason for the Army's withdrawal from the SIRFC program and subsequent USSOCOM actions on the program, see Appendix C.

## **Update of Program Documents**

As a result of the Army's decision to withdraw from the program in September 2001, the ORD, the C4I support plan, the test and evaluation master plan, and the program protection plan needed to be updated to show the revised requirements and plans to provide the milestone decision authority with the information needed to make an informed decision at the SIRFC full-rate production review. Because of Army and USSOCOM indecision concerning program management responsibilities, the requirements and planning documents were not updated as required.

**Operational Requirements Document.** Chairman of the Joint Chiefs of Staff Instruction 3170.01B, requires that ORDs be updated when necessary and prior to each acquisition milestone to incorporate results of the activities during each acquisition phase. Because USSOCOM is now the sole user for the SIRFC, the

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ORD needs to be revised to identify USSOCOM requirements for the SIRFC. Specifically, USSOCOM needs to identify system capabilities, characteristics, key performance parameters, and the planned operational use for the SIRFC system in the ORD. Operational testers need the updated ORD to develop test plans for the dedicated operational test and evaluation that will be performed to support the full-rate production decision review in the first quarter of FY 2005.

**C4I Support Plan.** DoD Instruction 4630.8 requires that program managers develop a C4I support plan for all acquisition programs to document interoperability and supportability requirements. The SIRFC program office believed that a plan was not necessary because the SIRFC system did not exchange or receive data with systems outside the aircraft. Because the SIRFC system must interoperate with other systems on the aircraft, the program office needs a C4I support plan to identify SIRFC information exchange requirements. Operational testers use the C4I support plan to develop and conduct tests to demonstrate the satisfaction of system interoperability requirements before the full-rate production decision. During the audit, the Army Program Office began preparing a C4I support plan.

**Test and Evaluation Master Plan.** USSOCOM Directive 70-1 requires that the program office develop a test plan for developmental test and operational test activities. The test plan provides a framework to generate detailed test and evaluation plans for developmental and operational tests needed to support key decision points.

The test plan that was approved in September 1997 included plans to test the SIRFC on the *Longbow Apache* to demonstrate the satisfaction of Army operational requirements. With the Army's withdrawal from the SIRFC program, the test plan needs to be updated to plan and conduct operational tests on the MH-47 *Chinook* and the MH-60 *Blackhawk* rotary-wing aircraft to demonstrate the satisfaction of USSOCOM operational requirements for the SIRFC before the full-rate production decision review in the first quarter of FY 2005. The deputy product manager stated that the test and evaluation master plan was under revision. She anticipated that the revised test and evaluation master plan would be approved in the Spring of 2003.

**Program Protection Plan.** DoD Directive 5200.39 requires program managers to identify critical elements of their programs and develop a program protection plan. DoD 5200.1-M requires the program manager to update the program protection plan at each milestone review, when a change occurs in the status of the critical program information, and before each acquisition phase. The Science Applications International Corporation prepared the SIRFC program protection plan that was dated March 10, 1994. In preparing the program protection plan, the Science Applications International Corporation did not have information on the selection and application of security measures and countermeasures that are necessary to protect critical information for the SIRFC throughout its acquisition life. The information was not available because the program office did not provide the Army Intelligence Agency with the information needed to prepare a Multi-Discipline Counter Intelligence Threat Assessment to be included in the 1994 program protection plan. Subsequently, in August 2001, the deputy

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product manager stated that the required information was provided to the Army Intelligence Agency; however, as of December 2002, the Army Intelligence Agency had not initiated an assessment.

In addition, when the Science Applications International Corporation developed the program protection plan, it addressed the advanced threat radar jammer component, but not the threat warning system component of the SIRFC. Without a complete and updated program protection plan, the program office may unknowingly release critical program information and technologies. To help prevent unauthorized disclosure or inadvertent transfer of leading-edge technologies and sensitive data or systems, the program protection plan should be kept up-to-date to safeguard critical program and technology information.

## Conclusion

The Army and USSOCOM need to decide future program management responsibilities for the SIRFC program and to update program documentation to show the effects of the Army's withdrawal on program planning and management. Without updated documents, acquisition decision makers do not have the information they need to make informed programmatic decisions.

## Army Comments on the Finding and Audit Response

A summary of Army comments on the finding and audit responses is in Appendix E.

## Recommendations and Management Comments

**A.1. We recommend that the Army Acquisition Executive and the U.S. Special Operations Command Acquisition Executive decide which organization will manage the Suite of Integrated Radio Frequency Countermeasures system through the full-rate production phase of the acquisition process.**

**Army Comments.** The Program Executive Officer, Intelligence, Electronic Warfare, and Sensors, responding for the Army Acquisition Executive, concurred, stating that operational control of the SIRFC program was transferred to the U.S. Special Operations Command effective January 6, 2003, and that a formal transition plan was being jointly staffed for approval with the Army and U.S. Special Operations Command Acquisition Executives.

**U.S. Special Operations Command Comments.** The Acquisition Executive, U.S. Special Operations Command concurred, stating that operational control of

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the SIRFC program was transferred to USSOCOM effective January 6, 2003. He stated that transition of the SIRFC program from the Army product management office to USSOCOM would be completed by September 30, 2003.

**A.2. We recommend that the office assigned responsibility for the future management of the Suite of Integrated Radio Frequency Countermeasures program update the operational requirements document; the command, control, communications, computers and intelligence support plan; the test and evaluation master plan; and the program protection plan to show required program changes caused by the Army's withdrawal from the Suite of Integrated Radio Frequency Countermeasures program.**

**Army Comments.** The Program Executive Officer, responding for the Army Acquisition Executive, concurred, stating that the Army product management office and the USSOCOM Technology Applications Program Office jointly prepared a single acquisition management plan (the Plan) in March 2002, to support the FY 2002 low-rate initial production decision. The Plan identified program changes caused by the Army's withdrawal of procurement funds from the program and addressed cost, schedule, performance, test and evaluation, program affordability, and risk assessments for special operations aircraft applications based on USSOCOM production funds. He further stated that USSOCOM would handle subsequent updates of the documents.

**U.S. Special Operations Command Comments.** The Acquisition Executive, U.S. Special Operations Command concurred, stating that the operational requirements document; the command, control, communications, computers and intelligence support plan; the test and evaluation master plan; and the program protection plan were being updated to reflect just USSOCOM requirements and would be signed in the Spring of 2003.

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## B. Key Performance Parameters

The Army Aviation Center did not include any key performance parameters for the SIRFC in the ORD. This condition occurred because the Army Aviation Center was not aware of the requirement that key performance parameters for acquisition category III programs be placed in ORDs. As a result, program decision makers do not have criteria needed to make informed decisions concerning continuation of the program at program reviews and user requirements are at greater risk of not being met.

### Operational Requirements and Interoperability Policy

**Operational Requirements Policy.** Memorandum of the Secretary of Defense on, “The Defense Acquisition System,” October 30, 2002, and Chairman of the Joint Chiefs of Staff Instruction 3170.01B provide DoD policy for identifying key performance parameters in operational requirements documents.

**Secretary of Defense Policy Memorandum.** The memorandum states that before a program enters the system development and demonstration phase of the acquisition process, key performance parameters must be identified and validated to guide the efforts of that phase. Additionally, the memorandum states that key performance parameters should be refined as needed.

**Joint Staff Policy.** Chairman of the Joint Chiefs of Staff Instruction 3170.01B requires that DoD Components include key performance parameters that are mission-critical system requirements in the ORD. Key performance parameters represent those capabilities and characteristics of the system so significant that failure to meet the threshold value of performance can be cause for the program to be reevaluated or the program to be reassessed or terminated.

**Interoperability Policy.** Chairman of the Joint Chiefs of Staff Instruction 3170.01B; Chairman of the Joint Chiefs of Staff Instruction 6212.01B, “Interoperability and Supportability of National Security Systems and Information Technology Systems,” May 8, 2000; and Memorandum of the Joint Requirements Oversight Council on, “Policy for Updating Operational Requirements Documents to Incorporate Interoperability Key Performance Parameter and Cost,” November 16, 1999, provide DoD policy on identifying a key performance parameter for interoperability in ORDs.

**Joint Staff Policy.** Chairman of the Joint Chiefs of Staff Instruction 3170.01B requires that the lead DoD Component include a key performance parameter for interoperability in ORDs to allow for cross-system operation. The interoperability key performance parameter is derived from the information exchange requirements that characterize the information exchanges performed by the proposed system. The interoperability key performance parameters in an ORD define the level of interoperability for the proposed system.



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Chairman of the Joint Chiefs of Staff Instruction 6212.01B states that the ORD must be certified before each milestone, regardless of acquisition category, for conformance with joint national security systems and interoperability standards.

**Joint Requirements Oversight Council Policy Memorandum.** The memorandum requires that DoD Components include an interoperability key performance parameter in the ORD of all systems that entered the engineering and manufacturing development phase of the acquisition process before April 1, 2000.

## **Operational Requirements Document**

The Army Aviation Center prepared the initial ORD for the SIRFC on March 2, 1994, based on the 1984 Aircraft Survivability Equipment Required Operational Capability document. Subsequently, the Army Aviation Center revised the ORD in May 1995, August 1998, and June 1999. Key performance parameters were omitted from those versions of the ORD.

The Army Aviation Center did not include key performance parameters in the ORD because it was not aware of the requirement that key performance parameters for acquisition category III programs be placed in ORDs. Program office personnel stated that the Army planned to add a key performance parameter for interoperability in an update to the ORD. As of November 2002, the ORD was still being updated. When interoperability is identified as a key performance parameter in the ORD, the Director for Command, Control, Communications, and Computers (J-6) validates that the interoperability key performance parameter was adequately tested and that the test results were certified. The Joint Interoperability Test Command certifies system test results during the interoperability system test certification. Testing may be performed with other developmental or operational testing whenever possible to conserve resources. However, interoperability testing and test certification must be addressed as an integral part of the requirements generation process before the planned full-rate production decision review in the first quarter of FY 2005.

## **Effect of Not Including Key Performance Parameters in the Operational Requirements Document**

Without key performance parameters that specify which SIRFC system requirements are considered essential for successful mission accomplishment, acquisition decision makers do not have the criteria needed to make informed decisions concerning continuation of the program at program reviews. Accordingly, USSOCOM needs to update the ORD for the SIRFC to specify key performance parameters for those system capabilities or characteristics that are considered essential to reach the overall desired capabilities of the system for special operations rotary-wing aircraft.

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## Army Comments on the Finding and Audit Response

A summary of Army comments on the finding and audit responses is in Appendix E.

## Recommendation and Management Comments

**B. We recommend that the Commander, U.S. Special Operations Command update the operational requirements document for the Suite of Integrated Radio Frequency Countermeasures to include key performance parameters for critical user requirements and system interoperability requirements before further production decisions.**

**U.S. Special Operations Command Comments.** The Acquisition Executive, U.S. Special Operations Command concurred, stating that the operational requirements document would be updated to include key performance parameters for critical user requirements and system interoperability requirements before the next production decision.

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## C. Readiness for Low-Rate Initial Production

The Program Executive Officer, Intelligence, Electronic Warfare, and Sensors authorized the SIRFC program to enter low-rate initial production even though the Army Test and Evaluation Command concluded that the system, as designed, was not sufficiently mature to be considered operationally effective, suitable, and survivable. The Program Executive Officer made the decision to enable USSOCOM to meet its SIRFC requirement for an initial operational capability in FY 2005 for the MH-47 *Chinook* special operations rotary-wing aircraft. As a result, USSOCOM has contracted to procure seven SIRFC systems at an estimated cost of \$19.6 million without assurance that the SIRFC units procured can successfully pass planned operational tests before the full-rate production decision review.

### Low-Rate Initial Production Decision Policy

Memorandum of the Secretary of Defense on, "The Defense Acquisition System," October 30, 2002, provides testing policies pertaining to low-rate and full-rate production for all DoD acquisition programs. DoD Manual 4245.7-M, "Transition from Development to Production," Change 1, February 13, 1989, provides guidance to acquisition managers on minimizing risks associated with transitioning from development to production. The transition process involves two decision points: approval to enter low-rate initial production and approval to enter full-rate production. The low-rate initial production decision is critical because it starts the contractor production line.

**Secretary of Defense Policy Memorandum.** The memorandum states that system entrance into the production and deployment phase depends on the following criteria: acceptable performance in development, test and evaluation, and operational assessment; mature software capability; no significant manufacturing risks; a manufacturing process in control; an approved ORD; acceptable interoperability; acceptable operational supportability; and demonstration that the system is affordable, optimally funded, and properly phased for rapid acquisition throughout the life cycle.

**DoD Manual 4245.7-M.** DoD Manual 4245.7-M provides acquisition managers with an overlay of risk-reducing activities in design, testing, and production for the sequential acquisition program milestones. The manual states that program failure in one of the design, test, and production processes often results in a failure to do well in all areas. As a result, programs become high risk and equipment is deployed later and at a far greater cost.

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## Platform Used For Limited User Test

The test and evaluation master plan for the SIRFC, September 16, 1997, stated that the *Longbow Apache* would be used as the test platform during the engineering and manufacturing development phase to demonstrate SIRFC capabilities. From September through October 2001, the Operational Test Command, a subordinate organization of the Army Test and Evaluation Command, conducted the SIRFC limited user test with the *Longbow Apache* to support the low-rate initial production decision.

In September 2001, the Army withdrew program funding for the SIRFC. As a result, USSOCOM obtained funding in December 2001 to continue with procuring 97 SIRFC systems for special operations aircraft. Because USSOCOM special operations aircraft did not include the *Longbow Apache*, the Army, as program manager, decided to equip the MH-47 *Chinook* rotary-wing aircraft with the SIRFC system first.

Technology Applications Program Office officials stated that it was too late to change the test platform and believed that if the SIRFC system worked on the *Longbow Apache*, it could be integrated into other platforms. The Army Test and Evaluation Command's system assessment stated that because the difference between platforms and their respective SIRFC integrations reduced the relevance of Longbow Apache-based test results for other aircraft, they recommended that the additional platforms needed to be tested.

## Results of Operational Tests

The Program Executive Officer, Intelligence, Electronic Warfare, and Sensors authorized SIRFC to enter low-rate initial production even though the Army Test and Evaluation Command (the Command) and the Director, Operational Test and Evaluation concluded that the system was not sufficiently mature to be considered operationally effective, suitable, and survivable.

**Army Test and Evaluation Command.** The Command, in its system assessment for the SIRFC dated June 21, 2002, stated that the SIRFC system was not sufficiently mature at that time to be considered operationally effective, suitable, and survivable. Further, the Command recommended that the program office make 15 system improvements before allowing the SIRFC system to enter into low-rate initial production and 11 modifications to the test and evaluation strategy before testing the SIRFC system again. The Command assessed SIRFC effectiveness, suitability, and survivability based on:

- the "Critical Operational Issues and Criteria," August 22, 1997;
- the Operational Requirements Document for the SIRFC, Change 1, April 18, 1996;

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- the mission needs and minimum operational performance requirement in the Operational Requirements Document for the *Longbow Apache*, April 1, 1994; and
  - the evaluation issues and associated measures of effectiveness and performance data obtained during developmental and operational testing.

The test results obtained for SIRFC effectiveness, suitability, and survivability during developmental and operational testing follow.

**Effectiveness Issues.** The Command stated that the SIRFC system demonstrated potential effectiveness, which it defined as the ability of SIRFC to provide threat warning and countermeasures in response to the radio frequency threat. Specifically, the SIRFC system was effective at identifying two of seven tested threats; however, the Command stated that further system improvement in identifying additional threats depended on the resolution of technical risks. Further, the Command stated that neither SIRFC nor any other radar warning system<sup>4</sup> may be able to provide threat identification to the accuracy standards specified in the ORD. Among the deficiencies that the Command noted were frequent false warnings of threat radars, overlapping threat symbols, and inadequate warnings of threat search radars.

Another effectiveness concern was the jamming countermeasures capability of the SIRFC, which must be able to degrade the threat's ability to engage aircraft and reduce the effectiveness of guns or missiles fired at the aircraft. Although the SIRFC limited user test indicated improved survivability of the *Longbow Apache* against some radio frequency threat systems, the jammer effectiveness varied with threat type and aircraft range. Also, the test results showed that the jammer created the potential for interference between Army rotary-wing aircraft when multiple SIRFC-equipped platforms were deployed in the same area. The necessary separation of SIRFC-equipped platforms imposed significant operational restrictions affecting Army attack helicopter doctrine. The ORD and the draft test and evaluation master plan, November 28, 2001, specify that SIRFC will be used in attack helicopter missions. However, the USSOCOM program office stated that the Army attack helicopter doctrine did not apply to USSOCOM rotary-wing aircraft operations. Accordingly, USSOCOM needs to reassess and revise, if appropriate, the ORD requirement that SIRFC equipped platforms will operate in attack helicopter missions.

Output power was also an effectiveness issue. The Command noted that the existing output power of the SIRFC jammer did not meet the jamming requirements of special operations aircraft because those aircraft have larger radar cross sections than the *Longbow Apache*. To overcome this issue, the USSOCOM program office stated that it planned to use either two jammers or a jammer with twice the power output of the jammer used on the *Longbow Apache* on special operations aircraft to mitigate the output power deficiency of the SIRFC jammer.

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<sup>4</sup>Radar warning systems enhance aircrew knowledge of the threat environment and facilitate evasive maneuvers to avoid the threat, thereby reducing the occurrence of engagements.

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**Suitability Issues.** The Command evaluated SIRFC suitability in terms of software reload capability; integrated logistics support; interoperability; compatibility; reliability; availability; and maintainability and concluded that the SIRFC system, as integrated on the *Longbow Apache*, was not suitable. The Command stated that the number of issues identified in the areas of reliability, built-in test, maintainability, maturity and stability of design, and manpower and personnel integration was more significant than the magnitude of any single issue. During the limited user test, for example, the demonstrated reliability of the system was 5 hours, with a lower confidence limit of 3 hours. The demonstrated reliability of 5 hours is significantly lower than the ORD requirement for 300 hours mean-time between mission affecting failures. The results of the contractor's reliability growth test<sup>5</sup> showed that the SIRFC system could meet the ORD reliability threshold of 300 hours. However, the Command stated that the data from the limited user test and the reliability growth test could not be combined, nor did the data instill high confidence that the SIRFC could meet its mission reliability requirements. Further, the Command stated that the number of design changes and the poor reliability test results suggested that changes were needed in the maintenance concept.

**Survivability Issues.** Survivability requirements include the ability of the SIRFC to withstand and to operate in electromagnetic, nuclear, biological, and chemical environments and not to be susceptible to information attacks. The Command stated that the SIRFC was not survivable in any of those environments. For example, the Command stated that the SIRFC system was not electromagnetically compatible with other subsystems of the *Longbow Apache* and did not comply with electromagnetic environmental effects tests of subsystems in accordance with Military Standard 461D, "Requirements for the Control of Electromagnetic Interference Emissions and Susceptibility," January 11, 1993. As a result, the Command stated that the SIRFC was at risk for electromagnetic interference and electromagnetic compatibility problems when integrated on platforms and deployed in an operational environment. In this regard, the USSOCOM Program Office stated that it believed that the electromagnetic interference and compatibility problems experienced on the *Longbow Apache* were not USSOCOM issues because those subsystems interfered with on the *Longbow Apache* were not installed on special operations aircraft. Until the SIRFC system is tested on USSOCOM rotary-wing aircraft, knowledge concerning whether subsystems on USSOCOM rotary-wing aircraft will experience similar electromagnetic interference and compatibility problems with the SIRFC will not be known.

**Director, Operational Test and Evaluation.** The Director, Operational Test and Evaluation tasked the Institute for Defense Analysis to assess the operational effectiveness, suitability, and survivability of the SIRFC system. On August 21, 2002, the Institute for Defense Analysis released its draft assessment to the Director, Operational Test and Evaluation. Overall, the Institute for Defense Analysis concurred with the system assessment that the Army Test and Evaluation Command issued in June 2002.

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<sup>5</sup>Reliability growth testing is an iterative process intended to rapidly and steadily improve reliability using a systematic engineering process of test-analyze-fix-retest, where equipment is tested under actual, simulated, or accelerated environments.

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## **System Improvements Identified at Low-Rate Initial Production Program Review**

The SIRFC contractor advised the program office of at least 10 known SIRFC deficiencies that it wanted to fix before conducting the limited user test. Because the SIRFC program manager needed approval to enter low-rate initial production in March 2002 to meet the planned initial operational capability date for the European Command scheduled for FY 2005, he decided to go forward with the limited user test before the contractor corrected the identified SIRFC deficiencies. After the limited user test, in March 2002, the program office awarded the SIRFC contractor a corrective actions contract to correct 37 deficiencies. Of those 37 deficiencies, 35 deficiencies involved SIRFC software deficiencies with the electronic countermeasures, the complex radio frequency, and the sensor fusion processor. The remaining two deficiencies related to the wideband receiver and smearing noise. The contractor and Army program office were of the opinion that successful correction of the 37 deficiencies would solve most of the SIRFC performance deficiencies noted in the Army Test and Evaluation Command's system assessment.

## **Statement of Urgency for the SIRFC**

In a memorandum dated October 22, 2001, the Program Executive Officer, Aviation requested that the SIRFC procurement be accelerated in support of Operation Enduring Freedom. The Program Executive Officer stated that it was imperative for SIRFC to be procured expeditiously to equip special operations aircraft. He stated that failure to immediately purchase SIRFC systems would result in degraded aircraft readiness and a high probability of increased flight crew casualties.

## **Low-Rate Initial Production Decision**

In February 2002, the Program Executive Officer, Intelligence, Electronic Warfare, and Sensors conducted a meeting with Army program office representatives, USSOCOM, and the Army Test and Evaluation Command to discuss a limited procurement decision in response to the statement of urgency. Although the final test results were not favorable, USSOCOM stated its willingness to accept the system with its known deficiencies because the demonstrated SIRFC capabilities were better than existing radio frequency electronic countermeasures on special operations aircraft.

In March 2002, the Program Executive Officer approved the procurement of up to eight SIRFC systems under low-rate initial production because he believed that the Army had a reasonable corrective actions plan that included risk management and risk mitigation. Additionally, he stated that no additional SIRFC systems

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would be procured under low-rate initial production until it was fully and successfully integrated with USSOCOM aircraft and the reliability problems were resolved.

## Conclusion

Test results available to the Army and USSOCOM program offices did not provide evidence that SIRFC system capabilities were better than those of existing systems on special operations aircraft or that low-rate initial production was justified in March 2002. No pre-set threshold that defined existing capabilities of special operations aircraft was established in the ORD or the test and evaluation master plan. Also, there was no side-by-side testing of the SIRFC with those existing systems on the aircraft to compare against. Therefore, the opinion that SIRFC was better than the existing capabilities on special operations aircraft was not supported by available test results before the low-rate production decision in March 2002.

## Army Comments on the Finding and Audit Response

A summary of Army comments on the finding and audit responses is in Appendix E.

## Recommendations, Management Comments, and Audit Response

**C.1 We recommend that the Army Acquisition Executive and the U.S. Special Operations Command Acquisition Executive not approve further low-rate initial production decisions for the Suite of Integrated Radio Frequency Countermeasures system until test results show that the system is potentially operationally effective, suitable, and survivable as integrated on the MH-47 *Chinook* rotary-wing aircraft.**

**Army Comments.** The Program Executive Officer, Intelligence, Electronic Warfare and Sensors neither concurred nor nonconcurred; however, he stated that because the U.S. Special Operations Command Acquisition Executive was now the milestone decision authority for the SIRFC program, the Army did not have a formal position for this recommendation.

**U.S. Special Operations Command Comments.** The Acquisition Executive, U.S. Special Operations Command nonconcurred, stating that the SIRFC system, as an aircraft subsystem, was designed to perform across multiple platforms and that the integration of the system on the MH-47 *Chinook* had no impact on the system design. However, the Acquisition Executive stated that the program manager had postponed the low-rate initial procurement decision for 4 months. During that 4-month period, the program manager will review system test results



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to determine the readiness of the system, as an aircraft subsystem, for low-rate initial production.

**Audit Response.** The comments of the Acquisition Executive, U.S. Special Operations Command were unresponsive to the intent of the recommendation. In March 2002, the Program Executive Officer, Intelligence, Electronic Warfare and Sensors approved a low-rate initial production decision of up to eight SIRFC systems. The approval was granted with the caveat that additional low-rate initial production units would be withheld pending a decision review that would demonstrate, among other issues:

- evidence of reliability fixes that demonstrate an achievable growth path towards meeting the reliability exit criteria;
- appropriate rationale to support additional low-rate initial production quantities; and
- formal test and evaluation results that can support a decision regarding additional low-rate initial production quantities.

The Army Test and Evaluation Command, in its system assessment of June 21, 2002, stated that the SIRFC system was not sufficiently mature to be considered operationally effective, suitable, and survivable and that the differences between platforms and their respective SIRFC integrations reduced the relevance of the test results that were based on the Army *Longbow Apache* for other aircraft, such as the USSOCOM MH-47 *Chinook* rotary-wing aircraft. The Command recommended that those additional platforms be tested with the SIRFC before making production decisions. Because the SIRFC has yet to be operationally tested on the MH-47 *Chinook*, the aircraft that the SIRFC will be fielded on, we believe that to reduce program risks, the USSOCOM Acquisition Executive needs to adhere to the exit criteria established in the Army acquisition decision memorandum for the SIRFC, May 5, 2002, before approving additional low-rate initial production quantities. Accordingly, we request the Acquisition Executive, U.S. Special Operations Command reconsider his position on this recommendation and provide additional comments on the final report.

**C.2. We recommend that the Commander, U.S. Special Operations Command compare the performance achieved with the Suite of Integrated Radio Frequency Countermeasures to the performance of existing aircraft radio frequency and jamming systems, measure the extent that aircraft survivability is improved within the system, and assess the affordability of the system.**

**U.S. Special Operations Command Comments.** The Acquisition Executive, U.S. Special Operations Command concurred, stating that on January 8, 2003, the Intelligence and Information Warfare Directorate, Army Communications Electronics Command provided an independent evaluation of the performance of existing radio frequency systems compared to the Suite of Integrated Radio Frequency Countermeasures system.

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**Audit Response.** The comments of the Acquisition Executive, U.S. Special Operations Command did not satisfy the intent of the recommendation. On January 8, 2003, the Intelligence and Information Warfare Directorate (the Directorate), Army Communications Electronics Command presented an independent evaluation of the performance of existing radio frequency systems compared to the SIRFC system. However, the Directorate did not compare SIRFC performance as demonstrated through operational test results with the actual performance of existing radio frequency systems. Instead, the Directorate compared the performance specifications of existing radio frequency systems to the performance specifications of the SIRFC. Accordingly, the comparison did not measure the extent that aircraft survivability was improved with the SIRFC or assess the affordability of the system compared to using existing aircraft radio frequency and jamming systems. Therefore, we request that the Acquisition Executive, U.S. Special Operations Command provide additional comments based on a comparison of actual SIRFC test data to measure the extent that aircraft survivability is improved using the SIRFC system and to assess the affordability of the SIRFC system.

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## Appendix A. Scope and Methodology

We reviewed documentation dated from August 1989 to August 2002. We used criteria and references cited in the Memorandum of the Secretary of Defense on, “The Defense Acquisition System;” Interim Defense Acquisition Guidebook; DoD Instruction 4630.8, DoD Instruction 5010.40; DoD Directive 5010.38, “Management Control (MC) Program;” DoD Directive 5200.39; DoD Manual 4245.7-M; DoD Manual 5200.1-M; Chairman of the Joint Chiefs of Staff Instructions 3170.01B and 6212.01B; Memorandum of the Joint Requirements Oversight Council on, “Policy for Updating Operational Requirements Documents to Incorporate Interoperability Key Performance Parameter and Cost;” Military Standard 461D; Defense Federal Acquisition Regulation Supplement 252.242-7005, “Cost/Schedule Status Report;” and USSOCOM Directive 70-1 to perform the audit.

To accomplish the audit objective, we took the following steps.

- We reviewed the “SIRFC Operational Requirements Document,” March 2, 1994, and its revisions, dated May 1995, August 1998, and June 1999 to determine whether the user adequately defined system requirements, key performance parameters, and interoperability requirements. We also discussed planned ORD revisions and USSOCOM requirements with personnel in the Technology Applications Program Office.
- We reviewed the “Single Acquisition Management Plan,” March 2002; the “SIRFC Test and Evaluation Master Plan,” September 16, 1997; and the “Program Protection Plan,” March 10, 1994, to determine whether the program office developed and effectively implemented program documentation, such as the acquisition strategy, acquisition plan, test and evaluation master plan, and program protection plan. We discussed the contents of those documents with program office personnel. We also questioned program office personnel regarding the preparation of a C4I Support Plan.
- We reviewed the results of the “Army Test and Evaluation Command System Assessment for the Suite of Integrated Radio Frequency Countermeasures,” June 21, 2002, and the Institute for Defense Analysis “Independent Evaluation of the Suite of Integrated Radio Frequency Countermeasures,” DRAFT, August 21, 2002, to determine the results of the limited user test and whether the Command considered the SIRFC design mature enough to support a low-rate initial production decision. We discussed the test results in the Army’s report with personnel from offices of the Director, Operational Test and Evaluation; the Army Test and Evaluation Command; the Technology Applications Program Office; the Communications and Electronics Command; and with contractor personnel from International Telephone and Telegraph. We also discussed the results from the Institute for Defense Analysis DRAFT report with personnel from the Office of the Director, Operational Test and Evaluation.

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- We reviewed the following Army contracts: DAAB07-94-C-M504, awarded July 26, 1994, for SIRFC engineering and manufacturing development; DAAB07-00-C-B410, awarded July 17, 2000, for SIRFC technology insertion; DAAB07-01-D-B010, awarded April 26, 2001, for production, corrective actions, and special operations aircraft; and USSOCOM contract USZA95-02-C-0009, March 28, 2002, for SIRFC integration, interface control drawings, manufacturing improvements, and hardware. Additionally we reviewed price negotiation memorandums for those contracts. We also reviewed the cost and schedule status reports on contract DAAB07-94-C-M504 from January 26, 2002, through June 26, 2002, to evaluate the adequacy of contract cost and schedule monitoring. Further, we reviewed the memorandums of agreement between the Defense Contract Management Agency and the Army program office dated June 18, 1997; May 23, 2001; and August 1, 2002.
  - We discussed with the Defense Contract Management Agency its involvement with the SIRFC program office and its monitoring of contractor cost and schedule status reports.
  - We reviewed management controls related to the audit objective and management self-evaluations for information technology and purchase card assessable units.

We performed the audit from April 2002 through December 2002 in accordance with generally accepted government auditing standards.

**Use of Computer-Processed Data.** We did not use computer-processed data to perform this audit.

**Use of Technical Assistance.** An electrical engineer from the Technical Assessment Division, Office of the Assistant Inspector General for Auditing, DoD, assisted in reviewing the technical requirements in the ORD, the test and evaluation master plan, and the system assessment report.

**General Accounting Office High-Risk Area.** The General Accounting Office has identified several high-risk areas in DoD. This report provides coverage of the DoD Weapon System Acquisition high-risk area.

## Management Control Program Review

DoD Directive 5010.38, "Management Control (MC) Program," August 26, 1996, and DoD Instruction 5010.40, "Management Control (MC) Program Procedures," August 28, 1996, require DoD organizations to implement a comprehensive system of management controls that provides reasonable assurance that programs are operating as intended and to evaluate the adequacy of the controls.

**Scope of the Review of the Management Control Program.** In accordance with DoD policy, acquisition managers are to use program cost, schedule, and performance parameters as control objectives to implement the requirements of

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DoD Directive 5010.40. Accordingly, we limited our review to management controls directly related to SIRFC program cost, schedule, and performance. We reviewed management's completed self-evaluations for information technology and purchase card assessable units. Management did not complete a self-assessment for the acquisition management assessable unit.

**Adequacy of Management Controls.** We identified a material management control weakness as defined by DoD Instruction 5010.40. Management controls were not adequate to ensure that the program manager and user updated program documentation as required. Recommendations A.2. and B., if implemented, will ensure adherence to regulatory requirements. We will provide a copy of the report to the senior official responsible for management controls in the Offices of the Assistant Secretary of the Army (Financial Management and Comptroller) and the Comptroller, USSOCOM.

**Adequacy of Management Self-Evaluation.** Although the SIRFC program office performed self-evaluations, it did not conduct a self-evaluation for the acquisition management assessable unit. Accordingly, the program office did not identify the material management control weaknesses that the audit identified.

## **Management Comments on Management Control Program Review and Audit Response**

**Program Executive Office, Intelligence, Electronic Warfare, and Sensors Comments.** The Program Executive Officer provided comments concerning the "Management Control Program Review." He stated that the audit identified the lack of updated program management and user documentation as a management control weakness. In this regard, he stated that the Program Executive Office, Intelligence, Electronic Warfare, and Sensors had exercised judicious management controls for essential program cost, schedule, and performance parameters and that, in the Army's opinion, no material weakness is present. For the complete text of the Program Executive Officer's comments, see the Management Comments section of this report.

**Audit Response.** Without preparing updated program documentation, the milestone decision authority did not have essential information, such as key performance parameters in the ORD and a C4I Support Plan to document interoperability and supportability requirements, to make an informed decision concerning the readiness of the SIRFC for low-rate initial production.

## **Prior Coverage**

During the last 5 years, the General Accounting Office (GAO) and the Inspector General of the Department of Defense (IG DoD) issued two reports that address the SIRFC. Unrestricted General Accounting Office and Inspector General of the Department of Defense reports can be accessed at <http://www.gao.gov> and <http://www.dodig.osd.mil/audit/reports>, respectively.

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## **General Accounting Office**

GAO Report No. GAO-01-448, "Electronic Warfare: The Army Can Reduce Its Risks in Developing New Radar Countermeasures System," April 2001

## **Inspector General of the Department of Defense (IG DoD)**

IG DoD Report No. D-2002-0035, "Protection of Strategic Assets Against the Radio Frequency Threat," January 4, 2002 **CLASSIFIED**

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## **Appendix B. Monitoring Contractor Cost and Schedule Performance on the Technology Insertion Contract**

On July 17, 2000, the program office awarded the technology insertion contract DAAB07-00-C-B410 to ITT to redesign, develop and test SIRFC engineering, manufacturing and development components. The procuring contracting officer did not include the Defense Federal Acquisition Regulation Supplement (DFARS) 252.242-7005, "Cost/Schedule Status Report," clause in the SIRFC technology insertion contract. DFARS 252.242-7005 requires the contractor to provide cost and schedule status reports. The procuring contracting officer stated that the DFARS 252.242-7005 clause was not included in the contract because the SIRFC program manager stated that there was limited funding for the technology insertion contract and that cost and schedule status reports were not a cost-effective tool for the technology insertion contract. Further, the procuring contracting officer advised that the program office would assess contract cost and schedule performance under the initial development contract and that the contractor would provide a quarterly report to the program manager on contract progress, status, and management after the basic contract was closed. Despite the program manager's assurance that the contract cost and schedule performance would be monitored, the program office stopped analyzing the basic contract cost and schedule information in September 2001, even though 2 years remained on that contract. As of July 2002, several work breakdown structure identification categories on the technology insertion contract had cost overruns totaling \$306,268. The program office could not explain those cost overruns because the financial data had not been analyzed in more than a year. Even so, the program office maintained that the contract was not experiencing any cost overruns.

DFARS 252.242-7005 requires contractors to provide, at a minimum, a time-phased, budgeted cost of work schedule, the budgeted cost of work performed, the actual cost of work performed, budgeted-at-completion data, and estimate-at-completion data. By comparing those types of data, cost and schedule variances can be calculated and managers can use this information to predict possible schedule delays and cost overruns. The contractor did not provide the data for the technology insertion contract with the data provided for the basic contract. Further, the August 2002 quarterly report did not provide data on work breakdown structure to identify cost overruns. Instead, the report identified the contract value, the cumulative amount spent to date, and the remaining contract balance.

Although the technology insertion contract was awarded in July 2000, the contractor did not begin submitting the quarterly report until August 2002. By that time, the contractor had spent 98 percent of the contract funding. Without the quarterly reports, the program office did not have sufficient cost information to monitor the contractor's performance.

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No recommendations are being made concerning the technology insertion contract because the contract is expected to be completed in July 2003. However, the contracting officer should include DFARS 252.242-7005 in future SIRFC contracts, such as the low-rate initial production contract, to assess and manage the contractor's cost and schedule performance.



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## Appendix C. Army and U.S. Special Operations Command Program Management

**Army Program Management.** On July 18, 1994, the Program Executive Office, Aviation approved the SIRFC program for entry into the engineering and manufacturing development phase of the acquisition process. In October 2001, the Army reassigned the milestone decision authority responsibility for the program to the Program Executive Office, Intelligence, Electronic Warfare, and Sensors. The Product Manager, Radio Frequency Countermeasures continued with responsibility for day-to-day management of the program pending an agreement between USSOCOM and the Army Acquisition Executive concerning which organization would assume program management responsibility after the Army withdrew from the SIRFC program in September 2001.

According to the Product manager, the Army removed funding for the SIRFC program because it had to choose between funding the infrared countermeasures program or the SIRFC. Both programs are designed to improve the protection of rotary-wing and fixed-wing aircraft. Because Army officials considered the infrared threat greater than the radio frequency threat, the Army decided to focus its available procurement funding on the infrared countermeasures system rather than on the SIRFC system.

Although the Army no longer supports fielding a SIRFC system for each rotary-wing and fixed-wing aircraft, Army officials stated that a validated requirement remains for the radio frequency countermeasures capability. Accordingly, Army plans to revisit the requirement for the SIRFC system in the upcoming program objective memorandum for FY 2005 through FY 2010 and develop a revised strategy to meet the radio frequency threat.

**Army Special Operations Command Actions.** In November 2001, the Army Special Operations Command stated in a memorandum to the Army Chief of Staff that its number one materiel problem was enhancing the combat survivability of Army special operations aircraft. Further, the Command stated that it needed the SIRFC system to satisfy that need, and that without immediate funding, the SIRFC program would not be executed. As a result, the DoD Comptroller, in Program Decision Memorandum II, December 15, 2001, provided USSOCOM with \$239.7 million in funding for FY 2003 through FY 2007 to procure, integrate, and install 97 SIRFC systems on special operations aircraft.

On March 25, 2002, the Program Executive Officer, Intelligence, Electronic Warfare, and Sensors verbally authorized low-rate initial production of the SIRFC for special operations aircraft. On May 30, 2002, the Program Executive Officer issued a signed acquisition decision memorandum stating that sufficient USSOCOM procurement funds were available to support low-rate initial production quantities and future production quantities through the Future Years Defense Program.

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Subsequently, on March 28, 2002, the Technology Applications Program Office,<sup>1</sup> Army Special Operations Command (USSOCOM program office), awarded an undefinitized<sup>2</sup> low-rate initial production contract to International Telephone and Telegraph Industries, Avionics Division to procure and integrate seven SIRFC systems for use on the MH-47 *Chinook* and the MH-60 *Blackhawk* special operations rotary-wing aircraft. The contract had a not-to-exceed value of \$45 million. As of November 2002, the USSOCOM program office had not definitized<sup>3</sup> the contract.

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<sup>1</sup>The Technology Applications Program Office is the USSOCOM program office responsible for management of special operations-peculiar modifications to Army rotary wing aircraft.

<sup>2</sup>A contract in which the terms, specifications, or price are not agreed on before performance begins.

<sup>3</sup>To agree on the contract terms, specifications, and price, which converts the undefinitized contract into a definitive contract.

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## Appendix D. Definition of Technical Terms

**Acquisition Category.** An acquisition category is an attribute of an acquisition program that determines the program level of review, decision authority, and applicable procedures. The acquisition categories consist of I, major Defense acquisition programs; IA, major automated information systems; II, major systems; and III, all other acquisition programs.

**Acquisition Phase.** An acquisition phase represents all the tasks and activities needed to bring a program to the next major milestone. Phases provide a logical means of progressively translating broadly stated mission needs into well-defined system-specific requirements and ultimately into operationally effective, suitable, and survivable systems.

**Acquisition Strategy.** An acquisition strategy is a business and technical management approach designed to achieve program objectives within the resource constraints imposed. It is the framework for planning, directing, contracting for, and managing a program. It provides a master schedule for research, development, test, production, fielding, modification, postproduction management, and other activities essential for program success. The acquisition strategy is a basis for formulating functional plans and strategies.

**Cost and Schedule Status Report.** The cost and schedule status report provides contract cost and schedule performance information for program management.

**Critical Program Information.** Critical program information includes information, technologies, or systems that, if compromised, would degrade combat effectiveness, shorten the expected combat-effective life of the system, or significantly alter program direction. This includes classified military information or unclassified controlled information about such programs, technologies, or systems.

**Effectiveness.** Effectiveness is the extent to which the goals of the system are attained, or the degree to which a system can be elected to achieve a set of specific mission requirements.

**Engineering and Manufacturing Development.** Engineering and manufacturing development is the third phase of the acquisition process where the program office and its contractors fully develop, engineer, design, fabricate, test, and evaluate the systems and the principal items necessary for support.

**Full-Rate Production.** Full-rate production is contracting for economic production quantities following stabilization of the system design and validation of the production process.

**Information Exchange Requirements.** Information exchange requirements characterize the information exchanges to be performed by a proposed system and identify who exchanges what information with whom, why the information is necessary, and how the users will employ that information.

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**Interoperability.** Interoperability is the ability of systems, units, or forces to provide services to, or accept services from, other systems, units, or forces and to use the services so exchanged to enable them to operate effectively together. Interoperability is a key performance parameter.

**Key Performance Parameters.** Key performance parameters are a critical subset of the performance parameters found in the ORD, and are included in the performance portion of the acquisition program baseline. Each key performance parameter has a threshold and objective value. Key performance parameters represent those capabilities or characteristics so significant that failure to meet the threshold value of performance can be cause for the concept or system selected to be reevaluated or the program to be reassessed or terminated.

**Low-Rate Initial Production.** Low-rate initial production is the minimum number of systems to provide production representative articles for operational test and evaluation, to establish an initial production base, and to permit an orderly increase in the production rate sufficient to lead to a full-rate production upon successful completion of operational testing.

**Milestone.** A milestone is the point at which a recommendation is made and approval sought regarding starting or continuing an acquisition program.

**Milestone Decision Authority.** The milestone decision authority is the individual designated in accordance with criteria established by the Under Secretary of Defense (Acquisition, Technology and Logistics) to approve entry of an acquisition program into the next phase of the acquisition process.

**Objective.** The objective is the performance value that is desired by the user and which the program manager is attempting to obtain. The objective value represents an operationally meaningful, time critical, and cost-effective increment above the performance threshold for each program parameter.

**Operational Assessment.** An operational assessment is an evaluation of operational effectiveness and operational suitability made by an independent operational test organization, with user support as required, on other than production systems. The focus of an operational assessment is on significant trends noted in development efforts, programmatic voids, risk areas, adequacy of requirements, and the ability of the program to support adequate operational testing. An operational assessment may be conducted at any time using technology demonstrators, prototypes, mock-ups, engineering development models, or simulations, but will not substitute for the initial operational test and evaluation necessary to support full-rate production decisions.

**Operational Requirements Document (ORD).** The ORD is a formatted statement containing performance and related operational performance parameters for the proposed concept or system.

**Operational Suitability.** Suitability is the degree to which a system can be placed satisfactorily in field use with consideration being given to availability, compatibility, transportability, interoperability, reliability, wartime usage rates,

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maintainability, safety, human factors, manpower supportability, logistic supportability, natural environmental effects, documentation, and training requirements.

**Program Protection Plan.** A program protection plan is a comprehensive plan to safeguard critical program and technology information that is associated with a defense acquisition program. The level of detail and complexity of the plan will vary based on the criticality of the program, system, information, and the phase of the acquisition process being addressed.

**Survivability.** Survivability is the capability of a system and its crew to avoid or withstand a man-made hostile environment without suffering an abortive impairment of its ability to accomplish its designated mission.

**System Development and Demonstration Phase.** The purpose of the system development and demonstration phase of the acquisition process is to develop a system, reduce program risk, ensure operational supportability, design for producibility, ensure affordability, and demonstrate system integration, interoperability, and utility.

**Test and Evaluation Master Plan.** A test and evaluation master plan documents the overall structure and objectives of the test and evaluation program. It provides a framework within which to generate detailed test and evaluation plans and it documents schedule and resource implications associated with the test and evaluation program. It identifies the necessary developmental test and evaluation, operational test and evaluation, and live-fire test and evaluation activities. It relates program schedule, test management strategy and structure, and required resources to critical operational issues, critical technical parameters, objectives and thresholds documented in the ORD, evaluation criteria, and milestone decision points.

**Threshold.** The threshold is the minimum acceptable value that, in the user's judgment, is necessary to satisfy the need. If threshold values are not achieved, program performance is seriously degraded, and the program may be too costly or may no longer be timely.

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## Appendix E. Audit Responses to Army Comments on the Report

Our detailed responses to the comments from the Program Executive Officer, Intelligence, Electronic Warfare, and Sensors on statements in the draft report follow. The complete text of those comments is in the Management Comments section of this report.

### Army Comments On the Background Section of the Report and Audit Response

**Army Comments.** The Program Executive Officer provided additional facts and clarifications on the background section of the report on funding for the program, the full-rate production decision, and the purchase of SIRFC units as Government furnished equipment.

**Funding.** The Program Executive Officer stated that although the Army had withdrawn SIRFC procurement funding for FY 2003 and beyond, the FY 2003 President's Budget showed research, development, and test and evaluation funds in the Army SIRFC program line from FY 2004 through FY 2008.

**Audit Response.** The FY 2003 President's Budget did contain research, development, and test and evaluation funds in the Army SIRFC program line for FY 2004 through FY 2008. As stated in the report, the Army, in June 2002, did remove \$51.4 million of the \$61.3 million in research, development, test, and evaluation funds planned for FY 2004 and beyond that were included in the February 2002, Army Research, Development, Test, and Evaluation Budget Item Justification.

**Full-Rate Production Decision.** The Program Executive Officer stated that at the time of the low-rate initial production decision, in March 2002, the SIRFC full-rate production decision was scheduled for the first quarter of FY 2004 not FY 2005.

**Audit Response.** We revised the report in response to the Army comment.

**SIRFC as Government Furnished Equipment.** The Program Executive Officer stated that plans to purchase SIRFC for the CV-22 program as Government furnished equipment on the Army's SIRFC production contract, beginning in FY 2004, were not part of the March 2002 low-rate initial production decision, deliberations, and economic discussions as discussed with the milestone decision authority.

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**Response.** We did not state in the report that the plans for purchasing SIRFC units for the CV-22 program as Government furnished equipment were part of the low-rate initial production decision, deliberations, or economic considerations discussed with the milestone decision authority in March 2002. However, the Program Executive Officer, Intelligence, Electronic Warfare and Sensors (the milestone decision authority) did approve the SIRFC Single Acquisition Management Plan (SAMP) 00-1, in March 2002, which indicated that the CV-22 Program Management Office anticipated purchasing SIRFC units as Government furnished equipment through the SIRFC production contract, beginning in FY 2004.

## **Army Comments on Finding A and Audit Response**

**Army Comments.** The Program Executive Officer stated that during his execution of the SIRFC program, there was no indecision or question regarding management responsibilities. Action was not taken to realign management responsibilities under USSOCOM until after the formal decision to zero all Army funding for SIRFC for FY 2004 and beyond, as documented in the Army's FY 2004 President's Budget Submission to the Office of the Secretary of Defense in January 2003. Accordingly, in January 2003, the Army officially transferred operational control of the SIRFC program to USSOCOM. He also stated that the product manager for SIRFC retained day-to-day management responsibility and that management responsibilities and chain of command were clearly defined at all times. Further, the Program Executive Officer stated that adequate information was presented to him to justify and support a low-rate initial production decision for quantities in support of USSOCOM needs, even though several documents were not updated before the decision in March 2002.

**Response.** Because of the Army's withdrawal from the SIRFC program in September 2001, Army and USSOCOM program management officials were unclear as to which organization, Army or USSOCOM, would manage the continual acquisition of the SIRFC system. During the audit, the Product Manager, Radio Frequency Countermeasures and the Assistant Program Manager, Technology Applications Program Office advised that a decision concerning program management responsibilities would be made by September 2002. As of the date of the draft report, December 16, 2002, the Army and USSOCOM acquisition executives still had not made a decision concerning program management responsibilities. As a consequence, program management officials in the Army and USSOCOM had not taken responsibility for updating program documentation as required in DoD guidance.

Finding A emphasized that the operational requirements document; the command, control, communications, computers, and intelligence support plan; the test and evaluation master plan; and the program protection plan—key documents that were not updated as required in DoD, Chairman of the Joint Chiefs of Staff, and USSOCOM instructions and regulations. As a result of the Army's decision to withdraw from the program in September 2001, those key program documents needed to be updated to show the program's revised requirements and acquisition

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plans, which the milestone decision authority needs to make an informed decision at the full-rate production review scheduled for the SIRFC.

## **Army Comments on Finding B and Audit Response**

**Army Comments.** The Program Executive Officer stated that the ORD, approved in March 1994, and subsequently updated in August 1995 and September 1999, preceded DoD policy that required the implementation of key performance parameters. Further, he stated that the SIRFC program office, in coordination with the 160th Special Operations Aviation Regiment, proposed critical performance objectives and threshold parameters for the low-rate initial production phase of the program that were based on the existing ORD, and that were subsequently carried forward in the acquisition program baseline approved by the milestone decision authority. The SIRFC acquisition program baseline included key measurable performance, schedule, cost, and supportability criteria linked to operational requirements that in the event of a breach or a potential breach would cause the milestone decision authority to reassess the program for continuation, modification, or termination. In addition, the SIRFC acquisition decision memorandum, May 2002, identified exit criteria that must be satisfied before proceeding to an additional low-rate initial production or full-rate production decision.

**Response.** As discussed in the finding, Chairman of the Joint Chiefs of Staff Instruction 3170.01B and its predecessors required that DoD Components include key performance parameters that are mission-critical system requirements in the ORD. Further, the Memorandum of the Joint Requirements Oversight Council on “Policy for Updating Operational Requirements Documents to Incorporate Interoperability Key Performance Parameter and Cost,” November 16, 1999, requires that DoD Components include an interoperability key performance parameter in the ORD of all systems that entered the engineering and manufacturing development phase of the acquisition process before April 1, 2000.

As reported, the latest ORD for the SIRFC program, dated September 1999, did not include any key performance parameters. Accordingly, we made the recommendation that USSOCOM update the ORD to include key performance parameters as required. A good starting point for identifying key performance parameters for the SIRFC would be the critical performance objective and threshold parameters that the milestone decision authority mentioned and approved in the acquisition program baseline in March 2002.

## **Army Comments on Finding C and Audit Response**

**Army Comments.** The Program Executive Officer stated that he reached his low-rate initial production decision for the SIRFC program through a series of multiple reviews with the program manager, USSOCOM, and the Army Test and Evaluation Command that focused on reliability; producibility; technical issues, status, and fixes; risk mitigation; and overall key programmatic parameters.



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Based on those reviews, he reached a reasoned decision to support proceeding with low-rate initial production articles to establish production readiness, to prove out fixes through aircraft integration testing, and to support a formal material release to field. Additionally, he stated that the decision was further balanced and bounded by adding measurable exit criteria in the low-rate initial production acquisition decision memorandum.

**Response.** We do not doubt that the Program Executive Officer reached his low-rate initial production decision through a series of multiple reviews with the SIRFC program manager, USSOCOM, and the Army Test and Evaluation Command. However, the Program Executive Officer still made the decision to allow the SIRFC to enter low-rate initial production when the test results provided at those reviews were not positive; that is:

- the Army Test and Evaluation Command and the Director, Operational Test and Evaluation concluded that the system was not sufficiently mature to be considered operationally effective, suitable, and survivable;
- the Army Test and Evaluation Command recommended that the SIRFC program office make 15 system improvements before allowing the SIRFC system to enter into low-rate initial production; and
- the Army Test and Evaluation Command stated that the differences between platforms and their respective SIRFC integrations reduced the relevance of the Army *Longbow Apache*'s test results for the aircraft, (such as the USSOCOM MH-47 *Chinook* rotary-wing aircraft) and recommended that those additional platforms be tested with the SIRFC,

As indicated in the report and the System Acquisition Management Plan that was prepared in support of the low-rate initial production decision in March 2002, the low-rate initial production decision was needed by March 2002 to meet the USSOCOM initial operating capability date in FY 2005 for the MH-47 *Chinook* rotary-wing aircraft. As of April 2002, no test results were available for the SIRFC as integrated on the MH-47 *Chinook*.

We commend the Program Executive Officer for adding measurable exit criteria in the low-rate initial production acquisition decision memorandum concerning further low-rate initial production decisions. Because the system was immature when the first low-rate initial production decision was made, prudent management practices would dictate that measurable exit criteria be met before management approves further production decisions.

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## **Appendix F. Report Distribution**

### **Office of the Secretary of Defense**

Under Secretary of Defense for Acquisition, Technology, and Logistics  
Under Secretary of Defense (Comptroller)/Chief Financial Officer  
    Deputy Chief Financial Officer  
    Deputy Comptroller (Program/Budget)  
Director, Operational Test and Evaluation

### **Department of the Army**

Assistant Secretary of the Army (Financial Management and Comptroller)  
Assistant Secretary of the Army (Acquisition, Logistics, and Technology)  
    Program Executive Officer, Intelligence, Electronic Warfare, and Sensors  
    Product Manager, Suite of Integrated Radio Frequency Countermeasures  
Auditor General, Department of the Army  
Commander, Army Test and Evaluation Command  
    Commander, Army Evaluation Center

### **Department of the Navy**

Naval Inspector General  
Auditor General, Department of the Navy

### **Department of the Air Force**

Assistant Secretary of the Air Force (Financial Management and Comptroller)  
Auditor General, Department of the Air Force

### **Unified Command**

Commander, U.S. Special Operations Command  
    Commander, Army Special Operations Command  
        Program Executive Officer, Maritime and Rotary  
        System Acquisition Manager, Army Special Operations Aviation  
        Program Manager, Technology Applications Program Office

### **Non-Defense Federal Organization**

Office of Management and Budget

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## **Congressional Committees and Subcommittees, Chairman and Ranking Minority Member**

Senate Committee on Appropriations  
Senate Subcommittee on Defense, Committee on Appropriations  
Senate Committee on Armed Services  
Senate Committee on Governmental Affairs  
House Committee on Appropriations  
House Subcommittee on Defense, Committee on Appropriations  
House Committee on Armed Services  
House Committee on Government Reform  
House Subcommittee on Government Efficiency and Financial Management, Committee on Government Reform  
House Subcommittee on National Security, Emerging Threats, and International Relations, Committee on Government Reform  
House Subcommittee on Technology, Information Policy, Intergovernmental Relations, and the Census, Committee on Government Reform



# Department of the Army Comments



REPLY TO  
ATTENTION OF

SFAE-IEW&S

DEPARTMENT OF THE ARMY  
PROGRAM EXECUTIVE OFFICE  
INTELLIGENCE, ELECTRONIC WARFARE AND SENSORS  
FORT MONMOUTH, NEW JERSEY 07703-5301

5 March 2003

MEMORANDUM FOR United States Department of Defense, Office of the Inspector General, 400 Army  
Navy Drive, Arlington, VA 22202-4704

SUBJECT: Response to the Draft DoD IG Report: "Report on the Acquisition of the Suite of Integrated  
Radio Frequency Countermeasures (Project No. D2002AE-0121)"

1. PEO IEW&S appreciates the opportunity to review and comment on the draft audit report on SIRFC acquisition matters. As requested, provided are PEO IEW&S' comments on DoD IG findings and recommendations (ENCL). It should be noted that based on the Army's formal position to zero SIRFC program funding as documented in the January 2003 FY04 President's Budget submission to OSD, SIRFC is now solely funded by SOCOM. As a result, operational control of the SIRFC program and program management office (PMO) were transferred to SOCOM effective 6 January 2003. A formal transition plan is currently being jointly developed by both organizations. Consequently, the SIRFC PMO provided its response to this audit through the SOCOM chain of command.

2. PEO IEW&S non-concurs with Findings A, B and C. We concur with Recommendations A-1 and A-2. We offer no formal position on Recommendations B-1, C-1 and C-2 as these recommendations are directed to organizations other than PEO IEW&S. PEO IEW&S non-concurs with Appendix A findings on adequacy of management controls. The audit identified a lack of updated program management and user documentation as a management control weakness. PEO IEW&S has exercised judicious management controls for essential program cost, schedule and performance parameters as addressed in responses to findings A, B and C. It is the position of PEO IEW&S that no materiel weakness is present.

3. The PEO IEW&S point of contact for this matter is Mr. Michael E. Ryan at commercial 732-532-6859, DSN 992-6859, or email: Michael.Ryan@iews.monmouth.army.mil.

EDWARD T. BAIR  
Program Executive Officer  
Intelligence, Electronic Warfare and Sensors

Encl  
as

CF:  
DoD IG (Mr. Brad Heller/Ms. Susan Lippolis)  
U.S Army Audit Agency (Mr. David Lawson)  
SAALT-SA (Ms. Diana Sinnett)  
PM AES (Mr. Wes McElveen/COL David Brown)

Revised

Revised

**PEO IEW&S Comments on Draft DoDIG Report on the  
Acquisition of the Suite of Integrated Radio Frequency Countermeasures  
(Project No. D2002AE-0121)**

**FACTUAL ACCURACY.** In reviewing the draft DoD IG report for factual accuracy, clarity and completeness, the following additional comments are provided below:

Background. (Page 1-2) These comments also apply as appropriate to the Background paragraph contained in the Executive Summary.

- 2<sup>nd</sup> para. Although the Army had withdrawn SIRFC procurement funding for FY03 and beyond, RDTE funds remained in the Army SIRFC program line beyond FY03 from FY04-08 as evidenced in the FY03 President's Budget, and was sustained there by OSD Comptroller, unlike ATIRCM/CMWS funding zeroed fully by Army and as a result OSD(C) transferred all funding control to SOCOM.

- 3<sup>rd</sup> para... At the time of the LRIP decision in March 2002, the SIRFC full rate production decision was scheduled for first quarter FY 2004 (not FY 2005) following results of operational testing, and so identified within Acquisition Program Baseline (APB) thresholds and objectives.

- 5<sup>th</sup> para. The plans for purchasing SIRFC for the CV-22 program as GFE using the Army's SIRFC production contract beginning in FY 2004 were not part of the March 2002 LRIP decision, deliberations nor economic considerations as presented/discussed with the MDA.

**FINDING SUMMARY A: Program Management.**

Roles and responsibilities for day-to-day management of the SIRFC program were unresolved because of Army and USSOCOM indecision concerning which organization would manage the program. Neither organization updated the operational requirements document; the command, control, communications, computers, and intelligence support plan; the test and evaluation master plan; and the program protection plan – key documents that are needed to effectively manage the program. As a result, acquisition decision makers do not have the information they need to make informed programmatic decisions.

**PEO IEW&S Comments: Non-concur.** At no time during the execution of the SIRFC program under PEO IEW&S cognizance was there any indecision or question regarding management responsibilities. No actions were taken to realign management responsibilities under SOCOM until after the formal decision to zero all FY04 and beyond SIRFC funding, as documented in the Army FY04 President's Budget submission to OSD in January 2003. That same month, operational control of the SIRFC program was officially transferred from the Army to SOCOM, and a formal transition plan was jointly developed by both organizations. Up to that point, PM SIRFC retained day-to-day management responsibility of the SIRFC program with PEO IEW&S as the designated milestone decision authority (MDA). Management responsibilities and chain of command were clearly defined at all times. Although several documents were not necessarily updated at the time of the March 02 Low Rate Initial Production (LRIP) decision, adequate information was presented to the MDA to justify and support an LRIP decision for quantities in support of SOCOM needs.

**Recommendation A-1:**

We recommend that the Army Acquisition Executive and the US Special Operations Command Acquisition Executive decide which organization will manage the Suite of Integrated Radio Frequency Countermeasures system through the full-rate production phase of the acquisition process.

**PEO IEW&S Comments:** *Concur*, however, recommendation is outdated given recent events. Based on Army FY04-09 POM decisions to zero SIRFC program funds, operational control was transferred from the Army to SOCOM effective 6 January 2003. A formal transition plan is currently being jointly staffed for approval to the Army and SOCOM Acquisition Executives.

**Recommendation A-2:**

We recommend that the office assigned responsibility for the future management of the Suite of Integrated Radio Frequency Countermeasures program update the operational requirements document; the command, control, communications, computers and intelligence support plan; the test and evaluation master plan; and the program protection plan to show required program changes caused by the Army's withdrawal from the Suite of Integrated Radio Frequency Countermeasures program.

**PEO IEW&S Comments:** *Concur*. A Single Acquisition Management Plan (SAMP) prepared jointly by PM SIRFC and the USSOCOM Technology Application Office (TAPO) was submitted to support the FY02 LRIP decision. The SAMP identified revised SIRFC program requirements and plans based on SOCOM as the sole source of production funds. The SAMP identified program changes caused by the Army's withdrawal of SIRFC procurement funds, and specifically addressed cost, schedule, performance, test & evaluation, program affordability, and risk assessments expressly for SOCOM Special Operations Aircraft (SOA) applications. If subsequent updates are warranted, they would be handled by the PM managed under SOCOM.

**FINDING SUMMARY B: Key Performance Parameters.**

The Army Aviation Center did not include any key performance parameters for the SIRFC in the ORD. This condition occurred because the Army Aviation Center was not aware of the requirement that key performance parameters for acquisition category III programs be placed in ORDs. As a result, program decision makers do not have criteria needed to make informed decisions concerning continuation of the program at the program reviews and user requirements are at greater risk of not being met.

**PEO IEW&S Comments:** *Non-concur*. The SIRFC ORD that was approved in Mar '94, and subsequently updated in August '95 and again in Sep '99, preceded the DoD policies that required implementation of KPPs. Regardless, the PM office in coordination with the SOCOM User – 160<sup>th</sup> Special Operations Aviation Regiment (SOAR), did propose critical performance objective and threshold parameters for the LRIP phase of the program that were based on the existing ORD, and subsequently carried forward in the MDA approved Acquisition Program Baseline (APB). The SIRFC APB contains key measurable performance, schedule, cost and supportability criteria linked to operational requirements supported by the User (SOAR), that in the event of breach or potential breach would cause the MDA to reassess the program for continuation, modification, or termination. In addition, the May '02 SIRFC Acquisition

Decision Memorandum (ADM) specifically requires the PM to report results of pacing interim schedule events during the course of the LRIP phase to demonstrate consequential progress. The ADM also identified exit criteria that must be satisfied prior to proceeding to an additional LRIP or full rate production decision.

**Recommendation B-1:**

We recommend that the Commander, US Special Operations Command update the operational requirements document for the Suite of Integrated Radio Frequency Countermeasures to include key performance parameters for critical user requirements and system interoperability requirements before further production decisions.

**PEO IEW&S Comments:** *No formal position.* This recommendation is not directed to PEO IEW&S for action.

**FINDING SUMMARY C: Readiness for Low Rate Initial Production.**

The Program Executive Officer, Intelligence, Electronic Warfare, and Sensors authorized the SIRFC program to enter low-rate initial production even though the Army Test and Evaluation Command concluded that the system, as designed, was not sufficiently mature to be considered operationally effective, suitable, and survivable. The Program Executive Officer made the decision to enable USSOCOM to meet its SIRFC requirement for an initial operational capability in FY 2005 for the MH-47 Chinook special operations rotary-wing aircraft. As a result, USSOCOM has contracted to procure seven SIRFC systems at an estimated cost of \$19.6 million without assurance that the SIRFC units procured can successfully pass planned operational tests before the full-rate production decision review.

**PEO IEW&S Comments:** *Non-concur.* PEO IEW&S reached his LRIP decision for SIRFC through a series of multiple reviews involving the PM, SOCOM, and ATEC which were focused on reliability, producability, and technical issues, status and fixes, as well as risk mitigation and overall key programmatic parameters. Based on these reviews and information provided to the MDA by these key stakeholders, a reasoned decision was reached to support proceeding with LRIP articles to establish production readiness, prove out fixes thru aircraft integration testing, and to support a formal materiel release to field. The decision was further balanced and bounded by adding measurable exit criteria in the LRIP ADM. Further data is available if you desire. As an additional fact, the MDA had previously disapproved the PM's recommendation to proceed forward with a Limited Procurement – Urgent acquisition.

**Recommendation C-1:**

We recommend that the Army Acquisition Executive and the US Special Operations Command Acquisition Executive not approve further low-rate initial production decisions for the Suite of Integrated Radio Frequency Countermeasures system until test results show that the system is potentially operationally effective, suitable, and survivable as integrated on the MH-47 Chinook rotary-wing aircraft.

**PEO IEW&S Comments:** *No formal position.* With transfer of operational control, SOCOM is now the milestone decision authority for SIRFC. However, the PEO IEW&S perspective while MDA for SIRFC was addressed in paragraph 5 of the May '02 ADM.



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**Recommendation C-2:**

We recommend that the Commander, US Special Operations Command compare the performance achieved with the Suite of Integrated Radio Frequency Countermeasures to the performance of existing aircraft radio frequency and jamming systems, measure the extent that aircraft survivability is improved within the system, and assess the affordability of the system.

**PEO IEW&S Comments:** *No formal position.* This recommendation is directed to SOCOM. However, while MDA, PEO IEW&S had conducted several side-by-side performance comparisons of SIRFC to existing systems, although none operationally.

**APPENDIX A: Management Control Program Review.** *Non-concur.* The audit identified a lack of updated program management and user documentation as a management control weakness. PEO IEW&S has exercised judicious management controls for essential program cost, schedule and performance parameters as addressed in responses to findings A, B & C. This is evidenced by the series of rigorous reviews leading up to the final LRIP decision in Mar '02, and as documented in the SIRFC program APB and ADM (e.g. TEMP update specifically called for in ADM). It is the position of PEO IEW&S that no materiel weakness is present.

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# U.S. Special Operations Command Comments



UNITED STATES SPECIAL OPERATIONS COMMAND  
OFFICE OF THE ACQUISITION EXECUTIVE  
7701 TAMPA POINT BLVD.  
MACDILL AIR FORCE BASE, FLORIDA 33621-5323

MEMORANDUM FOR ASSISTANT INSPECTOR GENERAL FOR AUDITING,  
DEPARTMENT OF DEFENSE, OAIG-AUD, 400 ARMY NAVY DRIVE (ROOM 801),  
ARLINGTON, VA 22202-4704

SUBJECT: Response to Office of the Inspector General of the Department of Defense  
Draft Report Dated 16 December 2002, Project No. DZ00AE-0121

1. Reference Memorandum, Department of the Army, Technology Applications Program Office, U.S. Army Special Operations Command, subject as above, undated.
2. Reference provides comments on subject above.
3. Point of contact, this office, is LTC Bert Fortier, (813) 828-9508.

*Harry E. Schulte*

HARRY E. SCHULTE  
Acquisition Executive



**DEPARTMENT OF THE ARMY**  
TECHNOLOGY APPLICATIONS PROGRAM OFFICE  
HEADQUARTERS, U.S. ARMY SPECIAL OPERATIONS COMMAND  
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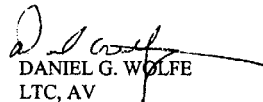
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MEMORANDUM FOR COMMANDER UNITED STATES SPECIAL OPERATIONS  
COMMAND, PEOM&R ATTN: LTC FORTIER, 7701 TAMPA POINT BLVD.,  
MCDILL AIR FORCE BASE, FL 33621-5323

SUBJECT: Response to Office of the Inspector General of the Department of Defense  
Draft Report Dated 16 December 2002, Project No. D2002AE-0121

1. Upon review of the subject DOD IG Report, the attached comments are provided.
2. The POC for this action is MAJ David Chapman, (757) 878 3299 ext 354.

  
DANIEL G. WOLFE  
LTC, AV  
Product Manager  
ARSOA Technology Applications

**Response to Office of the Inspector General of the Department of Defense Draft Report  
Dated 16 December 2002,  
Project No. D2002AE-0121**

**The following comments are provided to the Draft report recommendations:**

**Page 6**

Paragraph A.1. This office concurs with the recommendation. USSOCOM and Army agree that USSOCOM has Milestone Decision Authority (MDA) for the SIRFC Program. As of 6 January 2003, the U.S. Special Operations Command (USSOCOM) was provided Operational Control (OPCON) of the Army SIRFC product management office. Transition of the Army SIRFC PMO to USSOCOM will be complete by 30 September 2003.

**Page 6**

Paragraph A.2. This office concurs with the recommendation. The Operational Requirement Document (ORD), Command, Control, Communications, Computers and Intelligence (C4I) Support Plan, Test and Evaluation Master Plan (TEMP), and Program Protection Plan are all being updated to reflect only USSOCOM requirements and will be signed NLT 28 February 2003.

**Page 9**

Paragraph B. This office concurs with the recommendation. The Operational Requirements document will be updated to include Key Performance Parameters for critical user requirements and system interoperability requirements before the next production decision.

**Page 15**

Paragraph C.1. This office does not concur with the recommendation to postpone the low-rate initial production decision for SIRFC until after the system is integrated on the MH-47 aircraft. However, the Program Manager has postponed the low-rate initial procurement decision for 4 months. During this 4-month period, recent SIRFC test results will be reviewed to determine the readiness of SIRFC, as an aircraft subsystem, for low rate initial production. SIRFC, as an aircraft subsystem (B Kit), has been designed to perform across multiple platforms. MH-47 system level integration, to include A kit design, is well underway and has no impact to SIRFC (B-kit) design.

Paragraph C.2. This office concurs with the recommendation. On 8 January 2003, CECOM I2WD provided an independent evaluation of the performance of existing RF systems as compared to the SIRFC system. (Reference: CECOM Comparison Brief-  
SECRET/NOFORN).

## **Team Members**

The Acquisition Management Directorate, Office of the Assistant Inspector General for Auditing of the Department of Defense prepared this report. Personnel of the Office of the Inspector General of the Department of Defense who contributed to the report are listed below.

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